

NASA Weekly Update

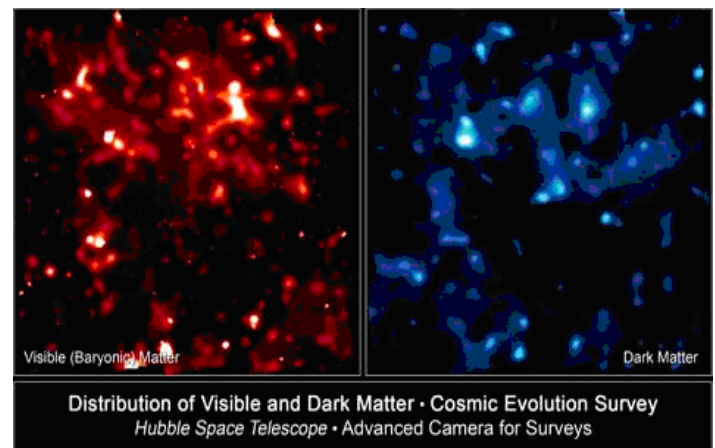
Week of January 2 - 8, 2007

Jan 3: Parsons Assumes Role as NASA's Kennedy Space Center Director: NASA's Kennedy Space Center in Florida gets new leadership today as William W. Parsons assumes the role as the facility's ninth director, succeeding James W. Kennedy, who is retiring from the agency. In September, Griffin named Parsons as Kennedy's successor. He has served as the center's deputy director since February. For information about NASA's Kennedy Space Center, visit: <http://www.nasa.gov/kennedy>.

Jan 7: NASA Extends Ares I Development Contract: NASA has authorized a contract action having a value of \$48 million with ATK Thiokol of Brigham City, Utah, to continue design and development of the first stage for the Ares I crew launch vehicle. Ares I will transport the Orion crew exploration vehicle and its crew of up to six astronauts, or other small cargo payloads, to low-Earth orbit. The first stage will consist of a single reusable solid rocket booster and motor similar to those used on the space shuttle, but with a fifth motor segment added. The upper stage will consist of a J-2X liquid hydrogen, liquid oxygen engine and the associated propellant tanks and fuel distribution systems. For more information about NASA's Constellation Program, visit: <http://www.nasa.gov/constellation>.

Jan 7: Hubble Maps the Cosmic Web of "Clumpy" Dark Matter in 3-D: An international team of astronomers using NASA's Hubble Space Telescope has created the first three-dimensional map of the large-scale distribution of dark matter in the universe. Dark matter is an invisible form of matter whose total mass in the universe is more than five times that of "normal" matter (i.e., atoms). The nature of dark matter is still unknown. Its presence in the universe is inferred from its current influence within galaxies and clusters of galaxies, and the gravitational effect it has had on the evolution of structure in the universe. The first direct detection of dark matter was made this past year

through observations of the Bullet Cluster of galaxies. For more information and images about this research, visit: <http://www.nasa.gov/hubble>.



These two false-color images compare the distribution of normal matter (red) with dark matter (blue) in the universe.

Jan 4: NASA Awards Marshall Mission Services Contract: NASA has selected Hernandez Engineering, Inc. of Houston, to provide safety and mission assurance services to the Marshall Space Flight Center. The indefinite delivery, indefinite quantity, cost plus award fee award term contract has a maximum potential value of \$376.2 million over 10 years. The contract begins Feb. 1, 2007. For more information, visit: <http://www.nasa.gov/marshall>.

Weekly Status Reports



Atlantis

Mission: STS-117 - 21st International Space Station Flight (13A) -S3/S4 Truss Segment Solar Arrays
Vehicle: Atlantis (OV-104)
Location: Orbiter Processing Facility Bay 1
Launch Date: No earlier than March 16, 2007

Launch Pad: 39A

Crew: Sturckow, Archambault, Reilly, Swanson, Forrester and Olivas

Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Technicians powered down orbiter Atlantis in Orbiter Processing Facility bay 1 prior to the holidays. Over the holiday period, thermal protection system waterproofing was completed. Final system testing and processing continues in preparation for the vehicle's roll over to the Vehicle Assembly Building, scheduled for Feb. 7. The external tank scheduled to fly with Atlantis, designated ET-124, arrived at Kennedy Space Center from the Michoud Assembly Facility in New Orleans prior to the holidays.

Endeavor

Mission: STS-118 - 22nd International Space Station Flight (13A.1) - S5 Truss Segment

Vehicle: Endeavour (OV-105)

Location: Orbiter Processing Facility Bay 2 Launch

Date: No earlier than June 28, 2007 Launch Pad: 39A

Crew: Kelly, Hobough, Williams, Morgan, Mastracchio, Caldwell and Anderson Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Endeavour remains in Orbiter Processing Facility bay 2, and technicians continue preparing the vehicle for its first launch in nearly five years. The vehicle has undergone an extensive modification period, including the addition of all of the return-to-flight safety modifications added to both Discovery and Atlantis.



International Space Station (ISS)

New gear helped the astronauts on the International Space Station kick off a new year as they prepared a second oxygen-generating system, upgraded soundproofing in the living quarters and unpacked supplies delivered just before Christmas by the space shuttle.

After a New Year's Day holiday, station Expedition 14 Commander Michael Lopez-Alegria and Flight Engineer Suni Williams spent most of the week installing the U.S. oxygen generation system activation kit in the Destiny laboratory. The parts had been delivered on shuttle mission STS-121 in July 2006. The

new generator will supplement the Russian Elektron oxygen system on the station. The additional oxygen generating capacity will be important as the standard station crew size increases to six as the complex grows. In their work with the new system this week, Lopez-Alegria and Williams installed a hydrogen vent valve and power, data and fluid hoses and cables. The system will be activated and tested later this year. For more about the crew's activities and station sighting opportunities, visit: <http://www.nasa.gov/station>.



Expendable Launch Vehicle (ELV)

THEMIS

(Time History of Events and Macroscale Interactions During Substorms)

Launch Pad: 17-B, Cape Canaveral Air Force Station

Launch Vehicle: Boeing Delta II

Launch Date: Feb. 15, 2007

Launch Time: 6:07:37 - 6:26:37 p.m. EST

At the Astrotech payload processing facility near Kennedy Space Center, fueling of the THEMIS spacecraft is under way this week. The probes will be installed onto the payload carrier Jan. 9 to 11. Spin-balance testing will follow Jan. 15 and 16. Mating to the upper stage booster is scheduled for Jan. 26. THEMIS will go to Pad 17-B for mating with the Delta II on Feb. 2. At Pad 17-B, the first stage of the Delta II rocket is scheduled to be installed into the launcher on Saturday. The nine solid rocket boosters will be placed around the base of the first stage and attached in sets of three between Jan. 8 to 13. The second stage will be hoisted atop the first stage on Jan. 16. Previous status reports are available on the Web at: <http://www.nasa.gov/centers/kennedy/launchingrockets/status/2006>.



Upcoming Events

- **Jan 18, 2007:** A Russian-built Soyuz rocket is set to launch the automated supply ship Progress 24 to restock the International Space Station in a flight to begin at Kazakhstan's Baikonur Cosmodrome.
- **Feb 18, 2007:** Launch of THEMIS
- **NET March 2007:** Launch of Space Shuttle Atlantis from Kennedy Space Center.

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Please print and Fax to (202) 358-4340
or e-mail Lisa.Gibson@nasa.gov